

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) An apparatus for automatic processing of at least one biological sample accommodated on ~~a carrier member, such as a~~ at least one slide, by applying a predetermined amount of reagents in a predetermined sequence according to ~~a processing protocol~~, comprising:

a housing frame;

at least one sample processing section for accommodating the at least one ~~carrier member for~~ slide with a sample, said at least one sample processing section is provided within said housing;

a cover for protecting said at least one sample processing section in said housing, said cover enclosing the sample processing section and defining an interior space between the housing and the cover;

at least one climate control device ~~configured to control~~ for controlling the environment within said interior space defined by the cover; ~~[[and]]~~

a sensor device for providing feedback signals to the climate control means device; and

a data processing device for controlling the at least one climate control device and for storing a processing protocol, the processing protocol defining a predetermined amount of reagents to be applied in a predetermined sequence on the at least one slide.

2. (Previously Presented) An apparatus according to claim 1, wherein the sensor device is adapted to sense at least one climate parameter from the group consisting of temperature, pressure, humidity, airspeed and the presence of toxic elements in fume.

3. (Previously Presented) An apparatus according to claim 1, wherein the sensor device comprises internal sensors located inside the interior space.

4. (Currently Amended) An apparatus according to ~~any of claims~~ claim 1, wherein the sensor device comprises external sensors located ~~outside the interior space, such as~~ at or inside an air inlet/outlet manifold, in a laboratory facility accommodating the apparatus, or outside ~~[[the]]~~ a building accommodating the laboratory.

5. (Currently Amended) An apparatus according to ~~any of the claims~~ claim 1, wherein the cover comprises at least one openable hood pivotably attached to the housing frame.

6. (Currently Amended) An apparatus according to ~~any of the claims~~ claim 1, wherein the cover is ~~an integrated part of the apparatus~~ integral with the housing frame.

7. (Currently Amended) An apparatus according to ~~any of the claims~~
claim 1, wherein the cover comprises a plurality of covers arranged to cover a plurality
of sections of the apparatus, ~~such as~~ including the at least one biological sample
accommodated on ~~a carrier~~ the at least one slide in the at least one processing section.

8. (Currently Amended) An apparatus according to claim 7, wherein a
plurality of interior spaces of the apparatus is defined by said plurality of covers, each
interior space including at least one section arranged for comprising at least one sample
on ~~a carrier~~ the at least one slide and/or at least one section arranged for comprising at
least one reagent in a container.

9. (Currently Amended) An apparatus according to claim 8, wherein the at
least one climate control device ~~is arranged to control~~ controls the climate ~~in each~~
~~interior space, comprising at least one sample on a carrier, of the at least one biological~~
sample on the at least one slide in each interior space according to a sample the
processing protocol defined for that particular sample.

10. (Currently Amended) An apparatus according to claim 9, wherein the
sensor device comprises internal sensors and external sensors, and
wherein the at least one climate control device receives input signals from the
internal and/or external sensors~~[[,]]~~ and ~~is arranged to adjust the controlling~~ controls the
climate in each interior space~~[[,]]~~ according to the input signals.

11. (Currently Amended) An apparatus according to claim 8, wherein the at least one climate control device is connected for data communication with ~~a data processing device, such as a computer,~~ wherein the protocol for the processing of the particular sample is stored, and where from control data are provided to the climate control means device.

12. (Currently Amended) An apparatus according to ~~any of the claims~~ claim 1, wherein the at least one climate control device ~~controls~~ includes a pressure control device for controlling at least the pressure and ensures a slight sub-pressure within the interior space.

13. (Currently Amended) An apparatus according to ~~any of the claims~~ claim 1, wherein the at least one climate control device ~~controls~~ includes a pressure control device for controlling at least the pressure and ensures a slightly higher pressure within the interior space.

14. (Currently Amended) An apparatus according to ~~any of the claims~~ claim 1, wherein the at least one climate control device includes a humidity control controller within the interior space.

15. (Currently Amended) An apparatus according to ~~any of claims~~ claim 1, wherein the at least one climate control device ~~controls~~ includes a temperature control device for controlling the ambient temperature of the air within the interior space.

16. (Currently Amended) An apparatus according to ~~any of claims~~ claim 1, wherein the climate control device comprises a ventilation system with an exhaust ion device having a plurality of ducts for ~~configured to automatically exchange~~ exchanging the air in the interior space.

17. (Currently Amended) An apparatus according to claim 16, wherein the ventilation system comprise a fan in an air inlet opening in the housing frame through which air may be exchanged.

18. (Currently Amended) An apparatus according to claim 17, further comprising at least one air manipulation device with the air inlet opening for adapting the air temperature, pressure, air flow rate, and humidity of the inflowing air into the apparatus ~~wherein said opening being provided with the characteristics of the air flowing into the apparatus, such as the air temperature, pressure, air flow rate and humidity.~~

19. (Currently Amended) An apparatus according to ~~any of claims~~ claim 1, wherein the climate control device comprises an exhaust ion device with an outlet ~~capable of for~~ removing fumes from the interior space.

20. (Currently amended) An apparatus according to ~~any of claims~~ claim 1, wherein the climate control device ~~comprises is~~ a device capable of for recycling air for humidity, temperature, and toxic control, a device ~~capable of for~~ removing toxic elements from the air to be recycled, and/or a device ~~capable of for~~ supplying humidity

to the air to be recycled, and/or ~~or~~ a heater/cooling device capable of ~~for~~ controlling the temperature of the air to be recycled.

21. (Original) An apparatus according to claim 20, wherein the device configured to recycle air comprises a filter capable of cleaning and/or humidifying the air.

22. (Currently Amended) An apparatus according to ~~any of claims~~ claim 19, wherein said exhaust device is adapted to draw air from ~~[[an]]~~ the outlet positioned below ~~[[the]]~~ a level in which the at least one slide is accommodated.

23. (Currently Amended) An apparatus according to ~~any of claims~~ claim 19, wherein said exhaust device is adapted to draw air from ~~[[an]]~~ the outlet positioned above ~~[[the]]~~ a level in which the at least one slide is accommodated.

24. (Currently Amended) An apparatus according to ~~any of claims~~ claim 1, wherein said cover ~~[[are]]~~ is provided with at least one seal element to provide an air tight seal between the cover means and the housing.

25. (Currently Amended) An apparatus according to ~~any of claims~~ claim 1, wherein the housing frame comprises at least one air inlet opening ~~an inlet is provided~~ for supplying air into the interior space ~~comprising at least one air inlet opening in the housing frame, and~~

wherein the apparatus comprises an air manipulation device ~~are provided in said inlet means~~ for adapting the inflowing air with predetermined characteristics, the air manipulation device being provided in the at least one air inlet opening.

26. (Currently Amended) An apparatus according to claim 25, wherein said air manipulation device comprises an a humid filter device ~~wherein the inlet air is drawn through said humid filter device to ensure~~ for ensuring high and uniform humidity in the chamber when the inflowing air is drawn through the humid filter device.

27. (Original) An apparatus according to claim 25, wherein the air manipulation device controls humidity by spraying water droplets or having a water surface.

28. (Currently Amended) An apparatus according to claim 25, wherein the air manipulation device comprises an air recycling device with filters, ~~[[where]]~~ the recycled air ~~[[is]]~~ being drawn through the filters to remove fumes and ~~filters~~ to adjust the humidity.

29. (Original) An apparatus according to claim 25, wherein the air manipulation device controls the humidity to never be below a predetermined level, to prevent drying out of the sample.

30. (Currently Amended) An apparatus according to claim 25, wherein the air manipulation device comprises an air additive supply device in the at least one air inlet opening for adding by which disinfectants, UV protectants or other compounds ~~may be added~~ to the inlet air to prevent microbial growth or discolouring.

31. (Currently Amended) An apparatus according to claim 25, wherein the air manipulation device comprises an air additive supply device in the at least one air inlet opening arranged for addition of fluids from the group consisting of reagents, neutral gas, oxygen, carbon dioxide, nitrogen, water droplets, and formamide.

32. (Currently Amended) An apparatus according to ~~any of claims~~ claim 1, wherein the ~~apparatus comprises at least one~~ sensor device ~~to register~~ registers one or more parameters of the air in interior space of the apparatus, said ~~sensors~~ sensor device being arranged in ~~[[the]]~~ a vicinity of the cover ~~means~~ and/or in ~~[[the]]~~ a vicinity of the sample carriers at least one slide on a ~~carrier~~ slide rack assembly.

33. (Withdrawn) A method of automatically processing one or more biological samples accommodated on a carrier member, such as a slide, by applying a predetermined amount of reagents in a predetermined sequence according to a processing protocol in an automatic sample processing apparatus, comprising the steps of:

measuring at least one air characteristic inside an interior space in which at least one carrier member is provided inside a cover enclosing the samples accommodated in the apparatus, and

ventilating said interior space and controlling said apparatus according to a predetermined processing environment defined in a processing control procedure, said ventilation including exchanging air through at least one air inlet and air outlet.

34. (Withdrawn) A method according to claim 33, wherein the inlet air is drawn through a humid filter device of the air manipulation device to ensure high and uniform humidity in the chamber.

35. (Withdrawn) A method according to claim 33, wherein the humidity is controlled by spraying water droplets or having a water surface.

36. (Withdrawn) A method according to claim 33, wherein recycled air is drawn through filters to remove fumes and filters to adjust the humidity.

37. (Withdrawn) A method according to claim 33, wherein the humidity is controlled to never be below a predetermined level, to prevent drying out of the sample.

38. (Withdrawn) A method according to claim 33, wherein disinfectants, UV protectants or other compounds may be added to the inlet air to prevent microbial growth or discolouring.

39. (Withdrawn) A method according to claim 33, wherein the air manipulation device comprises air additive supply device arranged for addition of fluids from the group consisting of reagents, neutral gas, oxygen, carbon dioxide, nitrogen, water droplets, and formamide.

40. (Currently Amended) An apparatus for automatic staining of at least one biological sample accommodated on ~~a carrier member, such as a~~ at least one slide, by ~~applying a predetermined amount of reagents in a predetermined sequence according to a processing protocol,~~ comprising:

a housing frame;

at least one ~~sample processing~~ staining section for accommodating the at least one ~~carrier member for~~ slide with a sample, said at least one ~~sample processing~~ staining section being provided within said housing;

a cover for protecting said at least one ~~sample processing~~ staining section in said housing, said cover enclosing the ~~sample processing~~ staining section and defining an interior space between the housing and the cover;

at least one climate control device configured to control the environment within said interior space defined by the cover; [[and]]

a sensor device providing feedback signals to the climate control means device; and

a data processing device for controlling the at least one climate control device and for storing a processing protocol, the processing protocol defining a predetermined amount of reagents to be applied in a predetermined sequence on the at least one slide.

41. (Currently Amended) An apparatus according to either one of claim 40, wherein the sensor device is adapted to sense at least one climate parameter from the group consisting of temperature, pressure, humidity, airspeed and the presence of toxic elements in fume.

42. (Currently Amended) An apparatus according to either one of claim 40, wherein the sensor device comprises internal sensors located inside the interior space.

43. (Currently Amended) An apparatus according to either one of claim 40, wherein the sensor device comprises external sensors located outside the interior space, such as at or inside an air inlet/outlet manifold, in a laboratory facility accommodating the apparatus, or outside [[the]] a building accommodating the laboratory.

44. (Currently Amended) An apparatus according to either one of claim 40, wherein the cover comprises at least one openable hood pivotably attached to the housing frame.

45. (Currently Amended) An apparatus according to either one of claim 40, wherein the cover is an integrated part of the apparatus integral with the housing frame.

46. (Currently Amended) An apparatus according to either one of claim 40, wherein the cover comprises a plurality of covers arranged to cover a plurality of

sections of the apparatus, such as including at least one biological sample accommodated on a carrier the at least one slide in the at least one processing section.

47. (Currently Amended) An apparatus according to claim 46, wherein a plurality of interior spaces of the apparatus is defined by said plurality of covers, each interior space including at least one section arranged for comprising at least one sample on a carrier the at least one slide and/or at least one section arranged for comprising at least one reagent in a container.

48. (Currently Amended) An apparatus according to claim 47, wherein the at least one climate control device ~~is arranged to control~~ controls the climate in ~~each interior space, comprising at least one sample on a carrier, of the at least one biological sample on the at least one slide in each interior space~~ according to ~~a sample the~~ processing protocol defined for that particular sample.

49. (Currently Amended) An apparatus according to claim 48, wherein the sensor device comprises internal sensors and external sensors, and wherein the at least one climate control device receives input signals from the internal and/or external sensors~~[[,]]~~ and ~~is arranged to adjust the controlling~~ controls the climate in each interior space~~[[,]]~~ according to the input signals.

50. (Currently Amended) An apparatus according to claim 47, wherein the at least one climate control device is connected for data communication with ~~a data processing device, such as~~ a computer, wherein the protocol for the processing of the particular sample is stored, and where from control data are provided to the climate control means.

51. (Currently Amended) An apparatus according to ~~either one of~~ claim 40, wherein the at least one climate control device ~~controls~~ includes a pressure control device for controlling at least the pressure and ensures a slight sub-pressure within the interior space.

52. (Currently Amended) An apparatus according to ~~either one of~~ claim 40, wherein the at least one climate control device ~~controls~~ includes a pressure control device for controlling at least the pressure and ensures a slightly higher pressure within the interior space.

53. (Currently Amended) An apparatus according to ~~either one of~~ claim 40, wherein the at least one climate control device includes a humidity control controller within the interior space.

54. (Currently Amended) An apparatus according to ~~either one of~~ claim 40, wherein the at least one climate control device ~~controls~~ includes a temperature control device for controlling the ambient temperature of the air within the interior space.

55. (Currently Amended) An apparatus according to either one of claim 40, wherein the climate control device comprises a ventilation system with an exhaust device having a plurality of ducts for ~~configured to automatically exchange~~ exchanging the air in the interior space.

56. (Currently Amended) An apparatus according to claim 55, wherein the ventilation system comprise a fan in an air inlet opening in the housing frame through which air may be exchanged.

57. (Currently Amended) An apparatus according to claim 56, further comprising at least one air manipulation device with the air inlet opening for adapting the air temperature, pressure, air flow rate, and humidity of the inflowing air into the apparatus ~~wherein said opening being provided with the characteristics of the air flowing into the apparatus, such as the air temperature, pressure, air flow rate and humidity.~~

58. (Currently Amended) An apparatus according to either one of claim 40, wherein the climate control device comprises an exhaust device with an outlet capable of removing fumes from the interior space.

59. (Currently Amended) An apparatus according to either one of claim 40, wherein the climate control device ~~comprises~~ is a device capable of recycling air for humidity, temperature, and toxic control, a device capable of removing toxic elements from the air to be recycled, ~~and/or~~ a device capable of supplying humidity to the air to

be recycled, ~~and/or~~ or a heater/cooling device capable of controlling the temperature of the air to be recycled.

60. (Previously Presented) An apparatus according to claim 59, wherein the device configured to recycle air comprises a filter capable of cleaning and/or humidifying the air.

61. (Currently Amended) An apparatus according to claim 58, wherein said exhaustion device is adapted to draw air from ~~[[an]]~~ the outlet positioned below ~~[[the]]~~ a level in which the at least one slide is accommodated.

62. (Currently Amended) An apparatus according to claim 58, wherein said exhaustion device is adapted to draw air from ~~[[an]]~~ the outlet positioned above ~~[[the]]~~ a level in which the at least one slide is accommodated.

63. (Currently Amended) An apparatus according to ~~either one of~~ claim 40, wherein said cover is provided with at least one seal element to provide an air tight seal between the cover means and the housing.

64. (Currently Amended) An apparatus according to ~~either one of~~ claim 40, wherein the housing frame comprises at least one air inlet opening ~~an inlet is provided for supplying air into the interior space comprising at least one air inlet opening in the housing frame, and~~

wherein the apparatus comprises an air manipulation device ~~are provided in said inlet means for adapting the inflowing air with predetermined characteristics, the air manipulation device being provided in the at least one air inlet opening.~~

65. (Previously Presented) An apparatus according to claim 64, wherein said air manipulation device comprises a humid filter device wherein the inlet air is drawn through said humid filter device to ensure high and uniform humidity in the chamber.

66. (Previously Presented) An apparatus according to claim 64, wherein the air manipulation device controls humidity by spraying water droplets or having a water surface.

67. (Currently Amended) An apparatus according to claim 64, wherein the air manipulation device comprises an air recycling device with filters, ~~[[where]]~~ the recycled air ~~[[is]]~~ being drawn through the filters to remove fumes and ~~filters to adjust the~~ humidity.

68. (Previously Presented) An apparatus according to claim 64, wherein the air manipulation device controls the humidity to never be below a predetermined level, to prevent drying out of the sample.

69. (Currently Amended) An apparatus according to claim 64, wherein the air manipulation device comprises an air additive supply device in the at least one air inlet

~~opening for adding~~ by which disinfectants, UV protectants or other compounds may be added to the inlet air to prevent microbial growth or discolouring.

70. (Currently Amended) An apparatus according to claim 64, wherein the air manipulation device comprises an air additive supply device in the at least one air inlet opening arranged for addition of fluids from the group consisting of reagents, neutral gas, oxygen, carbon dioxide, nitrogen, water droplets, and formamide.

71. (Currently Amended) An apparatus according to either ~~one of~~ claim 40, wherein the ~~apparatus comprises at least one~~ sensor device ~~to register~~ registers one or more parameters of the air in interior space of the apparatus, said ~~sensors~~ sensor device being arranged in ~~[[the]]~~ a vicinity of the cover ~~means~~ and/or in ~~[[the]]~~ a vicinity of the ~~sample carriers~~ at least one slide on a ~~carrier~~ slide rack assembly.